

Recognition of newcomers' foreign credentials and work experience

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Education and work experience are among the valuable assets new immigrants bring to Canada. Almost one in five newcomers are skilled-worker principal applicants selected for their labour market attributes. While the majority of immigrants are not directly selected through the points system, many also possess skills that are potentially valuable to Canadian society and its economy (see *Selection of immigrants*).

In 2008, close to 45% of newcomers held a university degree, more than double the proportion 14 years earlier.¹ Among those who were admitted as principal applicants in the skilled workers category, 72% held a university degree, as did 41% of newcomers in the 'spouse and dependents, skilled worker' category, and 33% of family class immigrants. Fourteen years earlier, the corresponding figures were 39%, 21%, and 12% respectively (Citizenship and Immigration Canada 2004 and 2009).

Yet newcomers face barriers that may impede the recognition of their credentials and work experience, with consequences for their labour market performance and broader integration within Canadian society. Potential factors include the content of foreign education being deemed less relevant to the needs of the Canadian labour market than the country where the education was completed, linguistic ability in English or French, and the entry procedures in some trades and professions. Unfamiliarity with foreign degrees among employers may also play a role (Mata 1999). Others have suggested that the decentralized accreditation system seems to be a hurdle, with numerous trade and professional bodies being involved, and provinces having their own standards for evaluating degrees and setting certification norms for trades and professions (McDade 1988).

Selection of immigrants

Skilled-worker principal applicants are selected through a points system based on their labour market attributes. Higher marks are assigned to characteristics deemed to be most likely to increase success in the Canadian economy. The points system has been modified since it came into effect in 1967 (Green and Green 1999), but some basic elements have remained part of the screening grid. Selection criteria for skilled workers comprise education level, language ability in English or French, employment experience, age, arranged employment in Canada prior to landing, and some form of adaptability or suitability (Justice Canada 2001 and 1999, and Tolley 2003). The LSIC includes immigrants age 15 and over who landed from abroad between October 1, 2000, and September 30, 2001. Skilled-worker immigrants in this cohort were admitted according to the *Immigration Regulations, 1978* and their subsequent updates—these immigrants did not land under the current *Immigration and Refugee Protection Act* (IRPA), which came into effect in 2002.

Newcomers experience a higher rate of unemployment than established immigrants and native Canadians. Their earnings lag behind those of other groups. Finding employment is frequently challenging. Education-to-job mismatch is particularly prevalent among recent immigrants with university education. In 2008, two-thirds of such newcomers were working in occupations that usually required at most a college education or apprenticeship, compared to 55% of established immigrants and 40% of native Canadians (Gilmore 2009).² Also, a recent analysis of 2006 Census data shows that just under one-quarter (24%) of employed foreign-educated, university-level immigrants were working in a regulated occupation that matched their field of study, compared to 62% of their Canadian-born counterparts. And among immigrants whose occupation did not match their field of study,

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77% worked in jobs that do not usually require a degree, compared to 57% of 'unmatched' Canadian-born graduates (Zietsma 2010).³

Non-recognition of foreign credentials and work experience by employers and regulatory professional and trade bodies can lead to an underutilization of the 'human capital' of many immigrants who were selected for their skills, work experience and other sociodemographic characteristics (Boyd and Schellenberg 2007, Boyd and Thomas 2001 and 2002, and Wayland 2006⁴).

This study uses the 2000 to 2005 Longitudinal Survey of Immigrants to Canada (LSIC) to shed light on the issue of foreign credentials and work experience recognition from the perspective of immigrants, as the survey data are based on immigrants' responses to interview questions. The period covered by the survey precedes the labour market downturn that began in the fall of 2008. Although recent immigrants were disproportionately affected by the downturn, this study focuses on hypotheses relating to the recognition of credentials that should not be sensitive to the business cycle. This information may be of particular interest to those developing proposals for the federal, provincial and territorial Foreign Credentials Recognition investment program announced in November 2009.

The LSIC was unique in scope and depth. Following a cohort of new immigrants during their first four years of settlement in Canada, the survey captured both the pre-immigration and post-immigration trajectories of these immigrants by providing information on their occupation prior to landing, intended occupation, credentials received prior to landing and plans for credentials assessment, as well as their actual occupation in Canada, the education obtained or training taken after landing, and their labour-market outcomes such as earnings, participation, employment and unemployment (Kustec et al. 2007).

The same cohort of newcomers (a total of 7,716) was interviewed three times over four years: six months after landing, then two years and four years thereafter. Each time, these newcomers were asked about various aspects of their settlement in the country, including their employment situation and whether their credentials and work experience were accepted in Canada.

This study looks at one specific aspect of newcomers' settlement: recognition of their foreign credentials and work experience. (see *Data source and definitions*).

The assessment of credential recognition and work experience encompasses a number of questions. How does the recognition rate of foreign credentials compare with that of foreign work experience? Are female immigrants more likely than their male counterparts to encounter difficulties obtaining recognition for their degrees and work experience? Does the likelihood of foreign credential recognition vary depending on whether the immigrant is part of a visible minority? How do newcomers with pre-arranged employment or previous knowledge of Canadian society fare in getting their credentials and experience recognized? Does the likelihood of recognition differ depending on the location of study or work (the country where the degree was earned or work experience acquired)? Finally, how do immigrants selected specifically for their skills and education (skilled immigrants) fare compared to other immigrants?

Foreign credentials and work experience

In 2000/2001, over three-quarters of newcomers included in this study were admitted in the skilled immigrants category (as principal applicants or spouses and dependents), and less than 20% in the family class. A small number arrived as refugees or provincial nominees, business immigrants, or as permanent residents in other categories (see *Data source and definitions*). Almost 80% reported being part of a visible minority. Six months after landing in Canada—in the first of three waves of the survey—more than one-half were living in Ontario, the biggest immigrant-receiving province (Table 1).

A significant number of newcomers (over 60%) reported good or very good knowledge of one of the two official languages. Knowledge of English or French is considered a crucial aspect of an individual's job search and the process of professional, trade or academic accreditation (McDade 1988 and Mata 1999). Language ability has also been shown to improve labour-market outcomes among educated immigrants (Adamuti-Trache and Sweet 2005).

Within four years after landing in Canada, 28% of newcomers with foreign credentials had received recognition for these credentials, while 39% of those who had previously worked abroad had their foreign work experience recognized. The two groups (newcomers with credentials and newcomers with work experience) are not mutually exclusive—some of those who

Data source and definitions

The Longitudinal Survey of Immigrants to Canada (LSIC), conducted jointly by Statistics Canada and Citizenship and Immigration Canada (CIC), was based on a representative sample of all immigrants who arrived between October 1, 2000, and September 30, 2001, were age 15 or over at landing, and had applied through a Canadian mission abroad. The sampling frame was an administrative database maintained by CIC. The LSIC was designed to examine the first four years of settlement, a time when newcomers establish economic, social and cultural ties to Canadian society. Topics covered in the survey include language proficiency, housing, education, recognition of foreign credentials and foreign work experience, employment, health, values and attitudes, the development and use of social networks, income, and perceptions of settlement in Canada.

For the purposes of this study, the target population was newcomers age 18 to 59 at landing. They were interviewed at three different times: six months, two years and four years after landing in Canada. In each of the three survey waves, respondents were asked about their foreign credentials and work experience. The survey included questions on the country where they attained their highest education level and the country of their last permanent residence prior to landing. Data from these two questions help shed light on whether assessment and recognition of foreign credentials vary by source country of education and work experience.

Foreign credentials refer to the highest education level (above a high school diploma) attained outside Canada. The LSIC questions cover a range of issues relating to the assessment and recognition of foreign credentials in Canada, such as whether the respondent's credentials had been assessed and the kind of organization that accepted them (an employer, a work-related organization, an educational institution). Foreign credentials could be **fully accepted** (i.e., the employer/institution recognizes a credential as being legitimate within determined standards), **partially accepted** (i.e., the employer/institution partially recognizes a credential as being legitimate within determined standards), or **not accepted** (credential not recognized as being legitimate within determined standards). In some cases, respondents said they were finding out about the process for credential recognition. When respondents were asked about the assessment of their credentials, questions referred specifically to whether they checked to see if their credentials would be accepted as equal to those received in Canada. Other specific questions pertain to the highest degree earned, the main field of study, and the country where the degree was earned. **Foreign credentials are recognized** once they have been fully accepted and

deemed to be equivalent to credentials earned in Canada. For the purposes of this study, only credentials that were fully accepted were considered a 'positive' outcome in the analysis. Partially accepted credentials were treated as 'not accepted.'

Foreign work experience refers to the newcomers' **last job prior to landing**. Respondents were asked whether their foreign work experience was accepted and by what kind of organization (an employer, a professional or work-related organization, or an educational institution).

Recent immigrants are usually defined as those who landed during the five-year period preceding Census Day. In the context of the LSIC, recent immigrants (also referred to as **newcomers** for brevity) are those who were 'followed' during their first four years in Canada, since the survey period in the LSIC is four years.

Newcomers to Canada fall into one of five categories:

- **Principal applicants in the skilled worker category** are permanent residents identified as principal applicants on the application for a permanent resident visa for themselves and, if applicable, accompanying spouse and/or dependents when they applied to immigrate to Canada. For individuals, families or households applying to immigrate to Canada in the skilled worker category, only the principal applicant is assessed on the basis of selection criteria in place at the time of the application.
- **Spouse and dependents in the skilled worker category** are accompanying family members of the principal applicant.
- **Family class immigrants** are permanent residents sponsored by a Canadian citizen or a permanent resident living in Canada. They include spouses and partners, children, parents and grandparents, and other relatives.
- **Refugees** are newcomers who landed in Canada as refugees.
- **Other immigrants** include provincial or territorial nominees who are selected by a province or territory for specific skills that will contribute to the local economy to meet specific labour market needs, business immigrants who are permanent residents selected on the basis of their ability to establish themselves economically in Canada through entrepreneurial activity, self-employment or direct investment, as well as other groups. For further information, visit Citizenship and Immigration Canada at <http://www.cic.gc.ca/english/index.asp>.

had credentials also had work experience, and vice versa (see *Foreign credentials and work experience: Note on the sample*).

Recognition of foreign work experience is more prevalent than recognition of foreign credentials (Chart A). One possible reason could be that work experience is mostly assessed by employers, while credentials are

assessed by work-related organizations and educational institutions as well as employers. According to the LSIC, 83% of new immigrants with their work experience recognized, received this recognition from an employer. One-half of newcomers who had their credentials recognized obtained this recognition through an educational institution, 30% from an employer, and

Table 1 Overview of newcomers' characteristics: Respondents with foreign credentials and work experience

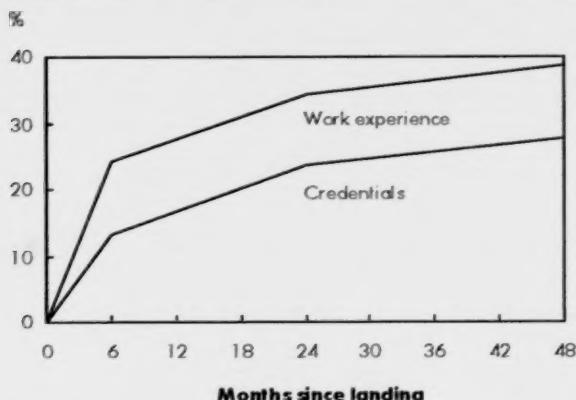
	Distribution at first wave (six months after landing)		Accepted after four years in Canada	
	Credentials	Work experience	Credentials	Work experience
Total	100	100	28	39
Men	52	55	33	51
Women	48	45	22	23
Age at landing				
18 to 24	9	8	24	31
25 to 34	51	50	32	43
35 to 44	30	30	26	38
45 to 59	9	12	19	29
Visible minority status				
No	21	23	29	50
Yes	79	77	27	35
Province or region of residence				
Atlantic	1	1	49	59
Quebec	16	16	29	34
Ontario	56	56	30	40
Prairies	2	3	33	34
Alberta	9	9	23	45
British Columbia and the territories	16	16	19	36
Immigrant category				
Skilled worker, principal applicant	48	46	38	51
Skilled worker, spouse and dependents	28	25	19	31
Family class	16	18	19	31
Refugee	3	5	11	14
Provincial nominees, business immigrants, other	6	6	14	22
Lived in Canada at least one year before landing				
No	93	93	26	37
Yes	7	7	49	59
Job arranged prior to landing				
No	93	93	26	36
Yes	7	7	51	76
Self-assessed spoken language knowledge				
Very well	37	35	35	47
Well	28	27	30	41
Fairly well	18	18	17	25
Poorly, not at all	16	21	19	32

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

20% from a work-related organization. The rate of recognition of foreign credentials and work experience was highest in the first six months of settlement. Indeed, among all new immigrants whose credentials were accepted after four years in Canada, nearly one-half (47%) received this recognition within six months after landing. The corresponding figure for foreign work experience was 62% (Charts A and B).

Not all immigrants need to have their credentials recognized by an employer in order to get a job. For example, in the first wave of the survey (six months after landing), 11% of respondents indicated that they did not get their credentials assessed because they knew they 'would be accepted' or thought that they met Canadian standards and there was no need to have them assessed. Also, in the third wave of the survey (four years after landing), 10% of respondents said they did not seek an assessment of their credentials because they knew they would be 'accepted'.²⁵ On the other hand, a similar proportion (14% in the first wave and 13% in the third wave) indicated that they did not get their credentials assessed because they knew they would not be accepted or recognized by employers (see *Reasons for not getting foreign credentials assessed*).

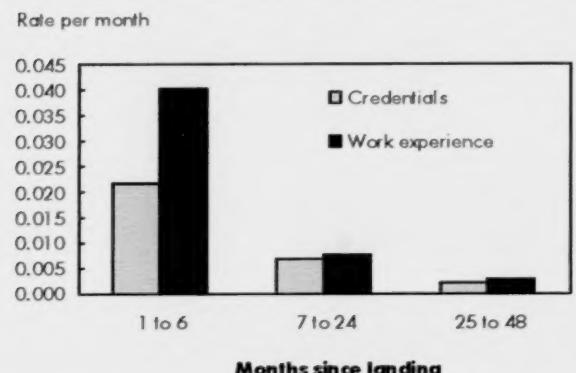
There appears to be a significant gap between men and women. Fully one-third of men had their credentials recognized within four years after landing, compared with

Chart A Foreign work experience more likely to be recognized than credentials

Note: Recognition rates are cumulative percentages.

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

only 22% of women. Men were also more successful in having their work experience recognized—51% compared with 23% of women.

Chart B Hazard rate of recognition of foreign credentials and work experience

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

**Foreign credentials and work experience:
Note on the sample**

A total of 7,716 newcomers were interviewed in three stages (or waves) over four years. The first interview took place six months after landing, the second and third, two years and four years after landing respectively. Among these respondents, one group of 4,826 newcomers reported foreign credentials,⁹ and an overlapping group of 5,615 reported foreign work experience. Newcomers' last occupation prior to landing was used as a proxy for their work experience.

1. Total sample (third wave)	7,716	100.0
2. Credentials only (no work experience)	508	6.6
3. Work experience only	1,297	16.8
4. Both credentials and work experience	4,318	56.0
5. Neither credentials nor work experience	1,593	20.6
6. Sub-total with credentials (2 + 4)	4,826	62.5
7. Sub-total with work experience (3 + 4)	5,615	72.8

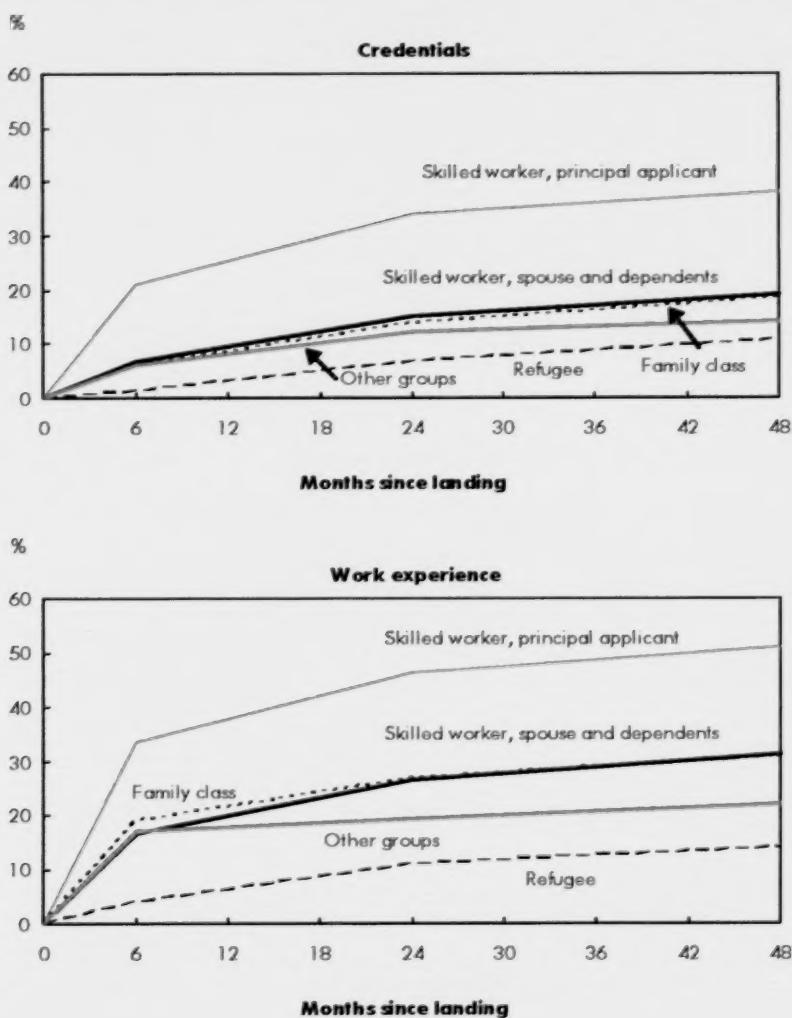
Skilled workers most likely to have foreign credentials and experience recognized

Principal applicants in the skilled workers category make up a distinct group due to the process involved in their selection. These new immigrants are selected based on their labour market attributes, including education, knowledge of official languages and work experience. The recognition rates for principal applicants in the skilled workers category (38% for credentials and 51% for work experience) were higher than for any other group, including spouses and dependents in the skilled workers category. The recognition rates were particularly low for refugees—less than 15% (Chart C).

Vast majority of newcomers highly educated

Almost nine out of ten newcomers with credentials above a high school diploma had a university degree at the time of landing in Canada. Among these, 82% held degrees in fields of study ranging from engineering to agriculture, biology, physics, mathematics and

Chart C Cumulative percentage of new immigrants with foreign credentials and work experience fully accepted by immigrant category



Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

Consistent with recent immigration trends, over one-third of newcomers with foreign credentials (35%) earned their highest education degree in China and India. The highest proportion with foreign work experience (30%) were also from those two countries. On the other hand, smaller proportions of newcomers had studied in the United States, the United Kingdom, France and South Korea. Those who had studied or worked in the U.S. or the U.K. were more likely to get recognition for their credentials and work experience (Table 2).

A small proportion of newcomers (7%) had arranged employment prior to landing, and a similar proportion had previous Canadian experience (they had lived in Canada for at least one year). After four years of residence in Canada, newcomers who had a job arranged prior to landing had the highest rate of recognition for their work experience (76%) and credentials (51%). Also, a majority of newcomers with previous Canadian experience received recognition for their credentials (59%) and work experience (49%) (Table 1).

Modelling credential and experience recognition

Logistic regression models were run in order to determine whether, and to what extent, evidence from the descriptive analysis holds when controlling for the effect of individual characteristics on the probability of recognition of foreign credentials and work experience. Because the LSIC was conducted in three waves, the statistical model used in this analysis estimates the probability that credentials or work experience have been recognized at each survey occasion, conditional upon not previously being

health sciences, as well as the humanities and social sciences. Two-thirds held professional jobs before immigrating to Canada; in management and business administration, natural sciences, health and education. A small number (12%) had blue-collar jobs prior to landing. This occupational distribution reflects the emphasis on high-level skills in the selection and recruitment of immigrants.

Table 2 Education and work experience of newcomers with foreign credentials and work experience

	Six months after landing		Accepted after four years in Canada		%
	Credentials	Work experience	Credentials	Work experience	
Education level at landing					
Below high school	...	5	...	28	
High school	...	11	...	26	
Postsecondary, trade	...	19	...	35	
Bachelor, MS, MD, Ph.D.	...	66	...	43	
Level and field of highest education					
Some university or college, or below, any field	11	...	16	...	
University					
Education, humanities and social science	25	...	25	...	
Commerce, management, business administration	24	...	30	...	
Engineering	20	...	33	...	
Health	4	...	31	...	
Agriculture, biology, physics, mathematics	10	...	36	...	
No specialization	7	...	20	...	
Last occupation prior to landing					
Managers and business administrators	...	16	...	34	
Professional and technical in natural sciences	...	28	...	49	
Professional and technical in health	...	6	...	43	
Teachers and professors	...	10	...	32	
Professional and technical in other sectors (law, social, arts, etc.)	...	6	...	37	
Clerical, sales and other service occupations	...	21	...	32	
Blue collar	...	12	...	36	
Not stated, not coded	...	1	...	44	
Country of highest education or last permanent residence					
United States	3	4	51	62	
United Kingdom	3	2	43	64	
France	3	2	24	65	
South Korea	4	4	10	14	
India	14	11	27	35	
China	21	19	28	28	
Philippines	9	7	17	48	
Pakistan	5	4	34	33	
Romania	4	4	34	53	
Russia	2	1	26	42	
All other countries	32	41	28	40	

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

recognized. Thus the probability at the first time point includes all respondents in the sample, and the probabilities at the later time points exclude those whose credentials or work experience have previously been recognized. In other words, the model estimates the conditional probability of foreign credentials and work experience being recognized at each time point (see *Multivariate analysis*).

These predicted probabilities refer to estimated percentages of respondents whose foreign credentials and foreign experience would be accepted after six months, between six months and two years, or between two years and four years of Canadian residence.

This analysis confirms most of the observations from the descriptive analysis. For example, at each of the three periods, the predicted probability of recognition was consistently higher for work experience than for credentials. In the work experience model, the probability of recognition is highest (65%) in the first six months of settlement and falls thereafter, to 45% in the second wave and 24% in the third wave. However, the predicted probability of foreign credential recognition is stable in the first and second waves, and then falls in the third wave. Six months after landing, newcomers had a 35% predicted probability of having their credentials recognized. Among those who did not receive recognition after six months the probability was 37% two years after landing, similar to the first period, then fell to 17% in the third period (data not shown).

Multivariate analysis

Logistic regression was used to estimate the probability of an outcome (e.g., obtaining foreign credential or work experience recognition) while accounting for the effects of other variables. These explanatory variables or covariates included age, sex, education, immigrant category (skilled workers, refugees, etc.), visible minority status, province of residence, knowledge of official languages, pre-arranged job at landing, previous Canadian experience, source country of foreign credentials and work experience, field of highest education, and last job prior to landing.

Because this study examines the probability p of an outcome at three discrete points in time—which correspond to the three waves of the survey—a discrete-time proportional hazard model was used. The discrete-time method for event-history analysis is based on the fact that “the history of an individual or group can always be characterized as a sequence of events” (Allison 1984).

The original survey data for each respondent were put into as many lines as the number of waves between newcomers' landing in Canada and the time of the survey, each line representing one period. For the dependent variable defined as recognition of credentials or work experience, the code 0 was used when the individual was at ‘risk’ of having credentials or work experience recognized, and 1 when the immigrant experienced the outcome, i.e., recognition for the first time since landing. The respondent ceases to be ‘at risk’ upon recognition of his/her credentials or work experience.

Process time t is the number of months in Canada since landing, and takes three values: 1 to 6 months, 7 to 24 months, and 25 to 48 months. Logistic regression is then used for statistical analysis. The intensity logistic (or logit) function takes the following general form:

$$\text{Logit } p_i(t) = y(t) + \sum_j \alpha_j \chi_{ij} + \sum_m \beta_m w_{im}(t)$$

The intensity of recognition of credentials or work experience depends on

- a time baseline $y(t)$, which is piecewise constant, where t is the duration in months since landing in Canada;
- some fixed covariates $\sum_j \alpha_j \chi_{ij}$, including a constant term;
- some time-varying covariates $\sum_m \beta_m w_{im}(t)$.

Coefficients from these models were converted into predicted probabilities for ease of interpretation. Predicted probabilities were calculated for each value of all covariates at each of the three time points and then the three results were summed in order to get the predicted probabilities after four years in Canada. All statistics were weighted to reflect population totals and models were run using bootstrap weights to correct variance estimates for survey design—a technique called design-based variance estimation.

Throughout the four-year survey, a number of newcomers did not have their credentials assessed (see *Reasons for not getting foreign credentials assessed*) or reported having received partial recognition (see *New immigrants with partially accepted foreign credentials and work experience*). This may partly explain the low predicted probability of credential recognition four years after landing for the remaining immigrants in the cohort.

Also, the reason why the recognition probability is higher for foreign work experience than for credentials may lie in different factors, including the fact that—at least for employers in certain industries—work experience is a more tangible asset than credentials. Credentials can be hard to assess, or deemed outdated or unrelated to labour market needs, whereas work experience can be considered ‘concrete’ or tangible.

Recognition rate lower for women, older immigrants

A smaller proportion of women had their work experience recognized by an employer, a work-related organization or an educational institution (48% versus 56% for men). Age is also a strong correlate—the older the immigrant, the lower the likelihood of having their credentials or work experience recognized. Younger newcomers (age 25 to 34) were more likely to have their credentials and experience recognized (32% and 48% respectively) than their counterparts age 35 to 44 (28% and 43% respectively). The probabilities are even lower for older immigrants age 45 to 59—21% and 35% respectively (Table 3).

Newcomers who were part of a visible minority also had a lower probability of having their work experience recognized compared to their non-visible minority counterparts (42% versus 52%). In contrast, the two groups had similar chances of having their credentials recognized—31% and 28% respectively. Visible minority status has been shown to affect immigrants' prospects in the labour market (Oreopoulos 2009).

Multivariate analysis also confirms the findings for principal applicants in the skilled workers category. These newcomers have the highest predicted probability of receiving recognition for their credentials (39%) and work experience (56%) among all classes of immigrants. Refugees had the lowest predicted probability of recognition. In fact, throughout their first four years in Canada, immigrants selected as skilled workers were the most successful in obtaining recognition for their credentials and work experience.

Table 3 Recognition of foreign credentials and work experience by selected sociodemographic characteristics

	Credentials model			Work experience model		
	Coefficients	Odds ratio	Predicted probability of recognition (%)	Coefficients	Odds ratio	Predicted probability of recognition (%)
Sex						
Men (ref.)	0.000	1.00	36	0.000	1.00	56
Women	-0.166	0.85	32	-0.225**	0.80	48
Age at landing						
18 to 24	0.241	1.27	39	0.053	1.05	50
25 to 34 (ref.)	0.000	1.00	32	0.000	1.00	48
35 to 44	-0.176***	0.84	28	-0.148***	0.86	43
45 to 59	-0.490**	0.61	21	-0.431*	0.65	35
Visible minority status						
No (ref.)	0.000	1.00	28	0.000	1.00	52
Yes	0.122	1.13	31	-0.291**	0.75	42
Immigrant category						
Skilled immigrant, principal applicant (ref.)	0.000	1.00	39	0.000	1.00	56
Skilled immigrant, spouse and dependents	-0.599*	0.55	23	-0.473*	0.62	39
Family class	-0.792*	0.45	20	-0.539*	0.58	37
Refugee	-1.295*	0.27	12	-1.478*	0.23	17
Provincial nominees, business immigrants, other	-0.870*	0.42	18	-1.076*	0.34	24

* significantly different from the reference group (ref.) at the 0.001 level; ** at the 0.01 level; *** at the 0.05 level.

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

Credential recognition increases with education

The higher the level of education, the greater the probability of credential recognition in Canada (31% for newcomers with a university degree compared with 20% for their counterparts with some university/college education or below). However, education level doesn't seem to play a role in work experience recognition—newcomers with university degrees were no more likely than those with an education below the high school level⁶ to have their work experience recognized—46% and 45% respectively (data not shown).

Also, the credential-recognition model shows little variation by field of study except for degrees with no specialization, for which the rate of recognition is lower (Table 4). This model indicates that foreign-trained immigrants in engineering and health had recognition probabilities that are slightly higher than recognition probabilities for immigrants trained in education, humanities and social sciences, and in commerce,

Table 4 Recognition of foreign credentials by field of study

	Coefficients	Odds ratio	Predicted probability of recognition (%)
Level and field of highest education			
Some university or college, or below, any field	-0.541*	0.58	20
University	0.000	1.00	33
Engineering (ref.)	-0.121	0.89	29
Education, humanities and social science	-0.047	0.95	31
Commerce, management, business administration	-0.055	0.95	31
Health	-0.055	0.95	31
Agriculture, biology, physics, mathematics	-0.270	0.76	26
No specialization	-0.270	0.76	26

* significantly different from the reference group (ref.) at the 0.001 level.

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

management and business administration. This differs from other studies which found that regulated occupations such as physicians and engineers are especially difficult to enter due to re-accreditation or certification requirements (McDade 1988, and Boyd and Schellenberg 2007).

Country of highest education or last residence related to recognition

Newcomers who attained their highest level of education or had their last permanent residence in the United States or the United Kingdom prior to landing in Canada had the highest probability of receiving recognition for their credentials (57% and 54% respectively) and work experience (78% and 76% respectively). Results for France were mixed: while credentials earned in this country had a 21% probability of being recognized—the third lowest after the Philippines and South Korea—French work experience was just as likely to be recognized as American or British work experience. South Korea, another developed OECD country, also fares poorly, both in terms of credentials and work experience assessment (Table 5).

Data from the 2006 Census also show that immigrants who earned their highest degree in South Korea had one of the lowest match rates between occupation and

field of study—only 12% of these immigrants worked in a regulated occupation that matched their field of study, similar to immigrants who earned their highest degree in Haiti, Cuba and El Salvador (Zietsma 2010).

For newcomers who had completed their highest education level in China and India (over one-third), the probability of credential recognition was similar, but recognition was higher for work experience acquired in India.

The effect of country or region of origin on labour market outcomes such as earnings or job–education mismatch has been well documented. Immigrant professionals from the United States, the United Kingdom and Western Europe are far more successful in the Canadian labour market than their counterparts from other regions of the world (Reitz 2001, Boyd and Thomas 2002, and Adamuti-Trache and Sweet 2005).⁷

Another series of models was run using ten sub-continental regions instead of ten specific countries, with the United States treated as a single region, and Australia and New Zealand grouped with the United Kingdom. The other regions were Western Europe, Eastern Europe, Latin America and the Caribbean, Sub-Saharan Africa, West Asia, South Asia, East Asia, and Southeast Asia and the Pacific.

Table 5 Recognition of foreign credentials and work experience by country of highest education or last permanent residence

	Credentials model			Work experience model		
	Coefficients	Odds ratio	Predicted probability of recognition (%)	Coefficients	Odds ratio	Predicted probability of recognition (%)
United States (ref.)	0.000	1.00	57	0.000	1.00	78
United Kingdom	-0.087	0.92	54	-0.042	0.96	76
France	-1.209*	0.30	21	-0.088	0.92	74
South Korea	-1.732*	0.18	13	-1.948*	0.14	17
India	-0.867*	0.42	28	-0.859*	0.42	42
China	-0.802*	0.45	30	-1.219*	0.30	32
Philippines	-1.389*	0.25	18	-0.472***	0.62	57
Pakistan	-0.639**	0.53	35	-1.022*	0.36	37
Romania	-0.646**	0.52	34	-0.661**	0.52	49
Russia	-0.664***	0.51	34	-1.020*	0.36	37
All other countries	-0.752*	0.47	31	-0.705*	0.49	48

* significantly different from the reference group (ref.) at the 0.001 level; ** at 0.01; *** at 0.05
Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

The results of these models (data not shown) indicate that English-speaking regions (the United States as well as the United Kingdom–Australia–New Zealand group) had a higher rate of foreign credential and work experience recognition. All other regions, including Western Europe, fell significantly lower. Only France differed from the rest of Western Europe in terms of work experience recognition. Because of the small sample size, it was not possible to investigate whether this French ‘specificity’ applied to other European countries like the Netherlands or Ireland, or Nordic countries.

The fact that Western Europe ranked low compared to the United States and the United Kingdom suggests that the quality of education may not be the only factor involved in the assessment of foreign credentials and work experience in Canada. Language of study is a crucial factor since university-educated immigrants with the highest match rates between field of study and occupation studied in English-speaking countries (Zietsma 2010).

Pre-arranged jobs and previous Canadian experience have major effects

Not surprisingly, having a pre-arranged job at landing is the strongest correlate of work experience recognition: 87% compared to 42% for those without a prior employment arrangement and 56% for those selected as skilled workers. The predicted probability of credential recognition for newcomers with a pre-arranged job was also significantly higher (40%) than for those who did not have a pre-arranged job (29%). Similarly, compared to newcomers who did not have previous Canadian experience, those who did have such experience had a higher probability of credential and work experience recognition (Table 6).

Newcomers with pre-arranged employment or previous Canadian experience are more likely to be aware of the labour market conditions and the potential challenges of obtaining credential or work experience recognition. Having a pre-arranged job or having previously worked in Canada implies a working knowledge of English or French, which in turn can

Table 6 Pre-arranged employment or previous Canadian experience and recognition of foreign credentials or work experience

	Credentials model			Work experience model		
	Coefficients	Odds ratio	Predicted probability of recognition (%)	Coefficients	Odds ratio	Predicted probability of recognition (%)
Lived in Canada at least one year before landing						
No (ref.)	0.000	1.00	29	0.000	1.00	44
Yes	0.488**	1.63	43	0.199	1.22	51
Job arranged prior to landing						
No (ref.)	0.000	1.00	29	0.000	1.00	42
Yes	0.378**	1.46	40	1.045*	2.84	87
Self-assessed spoken language knowledge						
Very well (ref.)	0.000	1.00	35	0.000	1.00	50
Well	-0.087	0.92	32	-0.100	0.91	46
Fairly well	-0.588*	0.56	21	-0.517*	0.60	34
Poorly, not at all	-0.483*	0.62	23	-0.256**	0.77	41

* significantly different from the reference group (ref.) at the 0.001 level; ** at 0.01

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

Table 7 Recognition of foreign experience by last occupation prior to landing

	Coefficients	Odds ratio	Predicted probability of recognition (%)
Professional and technical in natural sciences (ref.)	0.000	1.00	50
Managers and business administrators	-0.356*	0.70	38
Professional and technical in health	-0.061	0.94	48
Teachers and professors	-0.349**	0.71	39
Professional and technical in other sectors (law, social, arts, etc.)	-0.273***	0.76	41
Clerical, sales and other service occupations	-0.227***	0.80	42
Blue collar	-0.070	0.93	48
Not stated, not coded	0.009	1.01	51

* significantly different from the reference group (ref.) at the 0.001 level; ** at 0.01; *** at 0.05

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

Last job prior to landing

To ensure adequate sample size, previously held jobs were grouped in broad occupational groups. New immigrants who, prior to landing in Canada, had worked in the natural and applied sciences field (which includes engineers), as well as their counterparts who had worked in the health field, had the highest predicted probability of achieving work experience recognition after four years of residence in Canada (50% and 48% respectively). These two occupational groups are similar in that they are both regulated by a certification or licensing body. Interestingly, newcomers who held blue collar jobs (many in trades occupations that are not regulated) prior to landing had a similar probability to that of their counterparts in health occupations in terms of work experience recognition (48%) compared to 38% for newcomers in business occupations and 39% among teachers and professors (Table 7).

Credential recognition lower in Alberta and British Columbia than in Ontario

New immigrants living in Alberta and British Columbia and the territories⁸ had a lower probability (24% and 23% respectively) of credential recognition than their counterparts in Ontario (32%). Newcomers residing in the Atlantic region appear to have had the best odds of credential recognition (59%). Although their numbers were small, immigrants living in Newfoundland and Labrador in 2006, for example, were

improve communication with Canadian employers and other organizations. Newcomers who reported having poor or no knowledge of either official language did not fare as well as their counterparts who reported knowing either English or French (or both) very well.

Table 8 Recognition of foreign credentials and work experience by province or region of residence

	Credentials model			Work experience model		
	Coefficients	Odds ratio	Predicted probability of recognition (%)	Coefficients	Odds ratio	Predicted probability of recognition (%)
Ontario (ref.)	0.000	1.00	32	0.000	1.00	47
Atlantic	0.757***	2.13	59	0.139	1.15	52
Quebec	-0.166	0.85	28	-0.496*	0.61	32
Prairies	0.479	1.61	48	-0.242	0.79	39
Alberta	-0.334**	0.72	24	0.184	1.20	54
British Columbia and the territories	-0.410*	0.66	23	0.057	1.06	49

* significantly different from the reference group (ref.) at the 0.001 level; ** at 0.01; *** at 0.05

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

New immigrants with partially accepted foreign credentials and work experience

For increased accuracy of the analysis, a conservative approach was adopted by considering only the group of new immigrants whose foreign credentials and work experience were fully accepted. Those who received partial acceptance were treated as 'not accepted.' However, given the increased difficulties they are likely to face in the labour market, it would be worthwhile to look at some of their characteristics (Table 9).

After four years of settlement in Canada, 12% of new immigrants with foreign credentials and 18% of those with previous work experience had obtained partial recognition, compared with 28% of their counterparts whose credentials had been fully accepted and 39% whose work experience had been fully accepted. Not surprisingly, data on partial acceptance of credentials and work experience reveal certain patterns that are consistent with both the descriptive and multivariate results for the groups with full recognition. For example, partial recognition of foreign work experience tended to be higher for female immigrants and people who were part of a visible minority group. Also, refugees and Filipinos were the most likely to receive partial recognition for their credentials, compared to newcomers selected as skilled workers—who fared the best in this respect. Immigrants who earned their highest degree or whose last permanent residence was in the United States or the United Kingdom were the least likely to receive partial recognition for their credentials and work experience since the credentials and work experience for the majority of them had been fully accepted.

Table 9 Newcomers with partially accepted foreign credentials or work experience after four years in Canada

	Foreign credentials accepted			Foreign experience accepted		
	Total, fully or partially	Fully	Partially	Total, fully or partially	Fully	Partially
Total	40	28	12	56	39	18
Men	47	33	14	64	51	13
Women	32	22	9	48	23	25
Age at landing				%		
18 to 24	42	24	18	45	31	13
25 to 34	44	32	12	61	43	18
35 to 44	38	26	11	56	38	18
45 to 59	30	19	11	45	29	16
Visible minority status						
No	42	29	13	61	50	11
Yes	39	27	12	55	35	20
Immigrant category						
Skilled immigrant, principal applicant	51	38	13	72	51	21
Skilled immigrant, spouse and dependents	31	19	11	49	31	18
Family class	32	19	13	44	31	14
Refugee	21	11	11	23	14	9
Provincial nominees, business immigrants, other	23	14	9	29	22	7
Country of highest education or last permanent residence						
United States	54	51	3	69	62	7
United Kingdom	49	43	6	70	64	6
France	37	24	13	76	65	11
South Korea	17	10	7	21	14	7
India	43	27	16	63	35	27
China	33	28	5	54	28	25
Philippines	42	17	25	66	48	18
Pakistan	48	34	13	54	33	21
Romania	45	34	12	68	53	15
Russia	46	26	19	58	42	16
All other countries	42	28	13	54	40	14

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

the most likely (60%) to be working in occupations that matched their field of study, only three percentage points behind the Canadian-born in the province (Zietsma 2010).

With respect to foreign work experience, newcomers living in Ontario had the highest probability of experience recognition within four years after landing (47%), while their counterparts residing in Quebec had the lowest (32%). Results for the other provinces were not statistically different from Ontario (Table 8).

Reasons for not getting foreign credentials assessed

After four years of residence in Canada, about 40% of immigrants who arrived between October 1, 2000, and September 30, 2001, had not yet had their credentials assessed. The main reason for not having credentials assessed was that respondents saw no need for doing so or planned to work in an occupation different from their field of study—23% provided this reason after four years in Canada, compared to 5% six months after landing. This suggests that many new immigrants who did not have their credentials assessed had changed their plans regarding both the assessment of their credentials and the type of job to take during their first four years in Canada. Similar proportions of newcomers said they didn't have their credentials assessed for completely opposite reasons: 10% said they knew their credentials would be accepted, while 12% said they knew their credentials would not be accepted (Table 10).

Table 10 Reasons for not having foreign credentials assessed after six months or four years in Canada

	Six months after landing	Four years after landing
Total	100.0	100.0
No need/want to work in another field	4.9	23.0
Haven't had time/too busy	24.1	16.1
I know my credentials would not be accepted (friend told me, common knowledge, etc.)	9.0	11.7
Not a main priority (e.g., need to learn or improve language skills first)	3.3	10.2
I know my credentials would be accepted	6.4	9.8
Don't know where/how to get my credentials assessed/process too complicated	15.0	7.3
Cannot afford to have them assessed	3.0	3.7
Planning to return to school	5.5	3.6
Assessments would not be recognized by employers	4.7	1.6
Other reasons	24.1	13.0

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

Summary

This study looked at the cohort of new immigrants who landed between October 2000 and September 2001, examining their outcomes in terms of foreign credential and work experience recognition at three time points over a four-year period—six months, two years and four years after landing.

Among newcomers who landed in Canada from late 2000 to late 2001, just over one-quarter obtained recognition for their education credentials and two out of five received recognition for their work experience within four years after landing. About one-half of newcomers whose credentials or work experience were accepted by an employer, a professional association or an educational institution received recognition within their first six months of residence. A number of these individuals had pre-arranged employment or had resolved the issue of credential and work experience equivalencies prior to landing.

The study found that immigrants who landed as principal applicants in the 'skilled worker category'—individuals specifically selected for their skills and education—had the highest predicted probability of having their credentials and work experience recognized (39% and 56% respectively) after four years of residence in Canada, compared to other newcomers such as family class immigrants and refugees.

Women and older immigrants were less likely to have their work experience or credentials recognized within four years after landing compared to men and younger immigrants.

Another factor related to the likelihood of foreign credential recognition was the source country of the highest level of education and work experience. Newcomers who attained their highest education level or had worked at their last job in the United States or the United Kingdom prior to landing in Canada were significantly more likely to receive recognition for their

credentials and work experience. Results were mixed for France: while credentials earned in this country had a low probability of being recognized—in fact, the third lowest after the Philippines and South Korea—French work experience was just as likely to be recognized as American or British work experience.

Recent immigrants who had completed their highest level of education in China and India had similar probabilities of credential recognition, albeit lower, to the United States and the United Kingdom. However, Indian work experience was more likely to be recognized than Chinese experience.

Perspectives

■ Notes

1. In 1994, about 21% of newcomers held a university degree (Citizenship and Immigration Canada 2004, p. 47).
2. This is a report on employment quality for immigrant and Canadian-born workers. It is based on 2008 data from the Labour Force Survey (LFS). These data come from five questions designed to monitor immigrants' employment patterns and trends. Added to the LFS in January 2006, these questions pertain to the country of birth, landed immigrant status, the year and month that status was obtained, and the country where the degree reflecting the highest level education was earned.
3. Using data from the 2006 Census of Population, this study looks at university degree holders among immigrant and Canadian-born workers in regulated occupations. It sheds light on immigrants with foreign credentials and how they fare with respect to job-education mismatch compared to workers born or educated in Canada
4. Wayland conducted the study for Ontario. Similar concerns were voiced during the Bouchard-Taylor Commission hearings in Quebec (Bouchard and Taylor 2008).
5. No similar questions were asked about work experience.
6. Newcomers with an education below the high school level made up 5% of all new immigrants in 2000/2001.
7. There are exceptions, however. For instance, while Western-trained engineers are more successful in matching their education with their actual occupation, among foreign-born physicians, those born in Africa and South Asia have better chances of working as doctors than other groups, including those born in the United States, Western Europe and Oceania (Boyd and Schellenberg 2007). Place of training is assumed to be the same as place of birth, which may not be always the case.
8. Because there are few immigrants in the territories, they were grouped with British Columbia. Including or excluding these immigrants would not change the results for British Columbia. However, their exclusion would create gaps in some respondents' life history (represented by their answers to the three waves). These gaps are due to the fact that the residence variable is not static: As newcomers in the LSIC sample are followed throughout the survey period, they are asked about their residence during each wave.
9. About 300 respondents with foreign credentials were excluded from the analysis, mainly because it was not possible to match the level of their highest degree reported in the credentials module of the survey with their highest level of education reported in the education section of the main questionnaire. A few other respondents were also excluded because they reported having completed their highest level of education in Canada. There were no exclusions of respondents with foreign work experience. In the third wave of the survey, the credentials sub-sample represents 63% of the LSIC sample, and the work experience sub-sample, 73%.

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